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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,416	12/27/2000	Yoichi Nagasaki	P/2007-72	6945

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EXAMINER

JOHNSON, EDWARD M

ART UNIT

PAPER NUMBER

1754

DATE MAILED: 08/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,416

Applicant(s)

NAGASAKI ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 6-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura WO97/00134 (translated in US 6,228,480).

Regarding claim 1, Kimura '480 discloses photocatalyst comprising 50% titanium dioxide fine granule and 25% silica (see Examples 24-25), and also comprising silica particles (see column 5, lines 38-41).

Regarding claim 8, Kimura '480 discloses a mixture of photocatalyst comprising 50% titanium dioxide fine granule and 25% silica (see Examples 24-25), molding (see column 6, lines 19-22), and drying (see column 5, lines 51-53).

Regarding claims 2-3 and 11, Kimura '480 discloses soda lime glass plate (see column 18, lines 33-34 and Example 74).

Regarding claims 4 and 13, Kimura '480 discloses titanium dioxide (title, abstract).

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Regarding claim 6, Kimura '480 discloses dimensions of 1 mm and 5 cm (see Example 74).

Regarding claim 7, Kimura '480 discloses a porous structure (see column 6, lines 46-48).

Regarding claims 9-10, Kimura '480 discloses 25% silica without alkali (see Examples 24-25).

Regarding claim 12, apparatus limitations are not given undue weight in process claims. However, Kimura '480 discloses granules (see Examples 24-25), which would inherently be made by a granulator apparatus.

Regarding claim 14, Kimura '480 discloses drying at 50-200 degrees (see column 10, lines 52-55) and coating at 130 degrees (see Example 21).

3. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Taoda et al. US 5,981,425.

Regarding claim 1, Taoda '425 discloses photocatalyst-containing composition comprising silica (see column 8, lines 11-15 and column 9, lines 50-51) and 3-30% weight photocatalyst (see column 8, lines 25-30, Example 4, and Table 2), in the form of fine granules (see column 5, lines 17-29).

Regarding claims 2-3, Taoda '425 discloses activated carbon (see column 2, lines 15-16).

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Regarding claim 4, Taoda '425 discloses titanium dioxide (abstract).

Regarding claim 6, Taoda '425 discloses diameters of 1 micron to a few mm (see column 2, lines 62-64).

Regarding claim 7, Taoda '425 discloses porous titanium oxide (see column 2, line 9).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taoda '425 in view of Heller '169.

Taoda '425 fails to disclose a silica particle diameter of 30-50nm.

Heller '169 discloses a silica diameter of less than 50 nm.

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the silica diameter of Heller in the catalyst of Taoda because Heller discloses his silica diameter so as not to

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prevent photooxidation or photoreduction reactions (see column 5, lines 64-67) and Taoda discloses colloidal silica (column 8, lines 11-15) and spherical silica gel with a diameter of "about 10 microns" (see Reference Example 2), which would obviously, to one of ordinary skill, suggest a range around and extending below 10 microns.

Response to Arguments

6. Applicant's arguments filed 6/24/03 have been fully considered but they are not persuasive.

It is argued that in paragraph 9 of the Office Action... over Kimura. This is not persuasive because Kimura discloses photocatalyst comprising 50% titanium dioxide fine granule and 25% silica (see Examples 24-25), and also comprising silica particles (see column 5, lines 38-41). Applicant does not appear to respond to this specific citation by the Examiner. Further, and in any case, Applicant does not claim "shaping". It is noted that the features upon which applicant relies (i.e., "particles in the shaping" of granules) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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It is argued that Photocatalysts are commercially available... several μm . It is noted that the features upon which applicant relies (i.e., a particle that is not "scattered, requiring fixation" and need not be "in the same location at the same time") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that the larger specific surface area... can function. It is noted that the features upon which applicant relies (i.e., "specific surface area" as compared to a "substrate" that can be "packed easier etc.") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that as with Kimura as described above, Taoda fails to teach... granular form. This is not persuasive because Taoda discloses covered titanium dioxide in the form of fine granules (see column 5, lines 8-24).

It is argued that in paragraph 12 of the Office Action... presumably rejected over Taoda in view of Heller. Applicant's

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presumption is correct, as Heller is cited in the rejection itself. Heller is not cited for a disclosure of granules, since that is disclosed in Taoda (see above). Rather, Heller is cited for a specific diameter (see above). One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EMJ
July 29, 2003


STANLEY S. SILVERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700